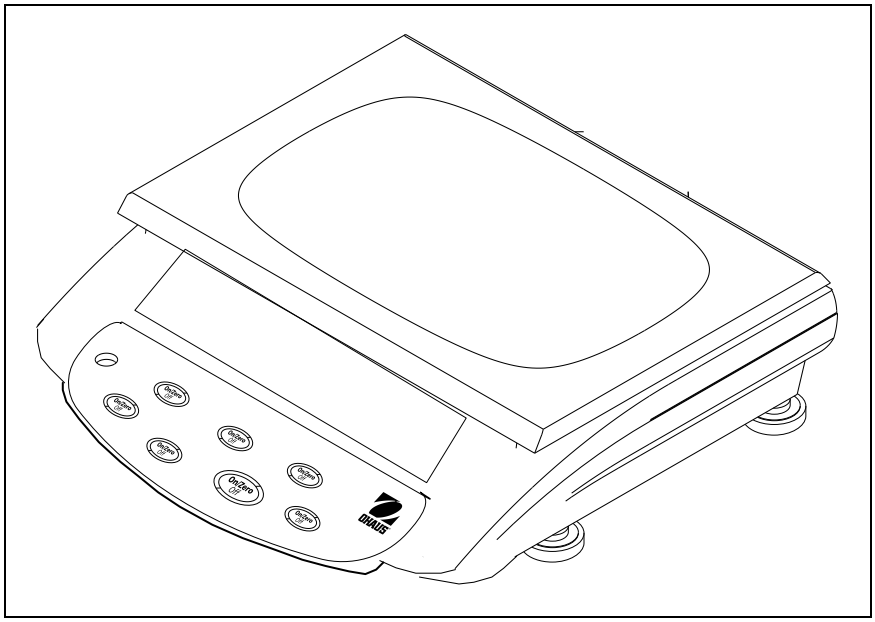
EB SERIES SCALES
SERVICE MANUAL



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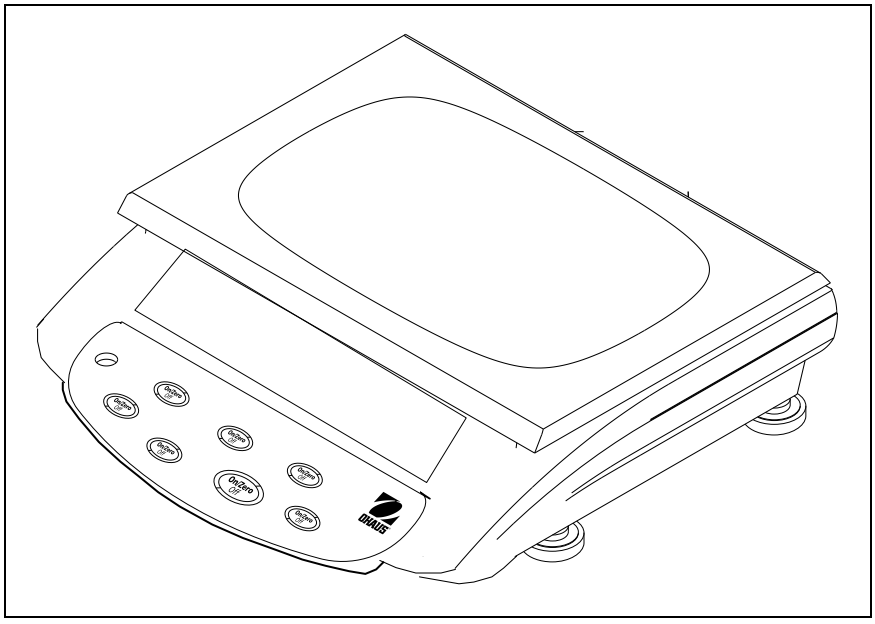

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1. INTRODUCTION

This service manual contains instructions for the diagnosis and repair work to be performed by Ohaus Dealers or Ohaus authorized service centers. Knowledge of the operation of the Scale is assumed. Instruction manuals may be required with this service manual. For complete information on operation, refer to the Instruction Manual.

This manual covers maintenance on the following:

EB Series Scales, Models EB3, EB6, EB15 and EB30

The contents of this manual are contained in five chapters and two Appendixes with service menu and calibration instructions.

Chapter 1 Introduction - Contains information about service facilities, tools, test equipment, test masses, service strategy, specifications, and setup.

Chapter 2 Diagnosis - Contains information on problem verification, scale examination, preliminary checks, troubleshooting tables, testing procedures, and an interconnection diagram.

Chapter 3 Repair Procedures - Contains detailed repair procedures for all major components.

Chapter 4 Final Testing - Contains performance tests, and calibration.

Chapter 5 Parts Lists - Contains overall views identifying all major serviceable replacement components with associated parts lists.

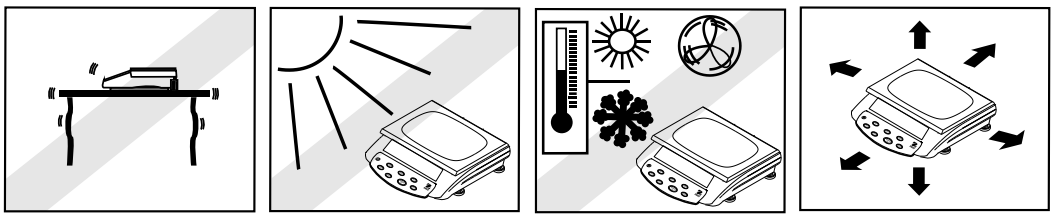
Appendix A Service Modes- Contains Configuration, Capacity and Readability for the EB Series Scales in a service mode.

Appendix B Service Calibration - Contains Service Calibration instructions.

1.1 SERVICE FACILITIES

To service a scale, the service area should meet the following requirements:

- Meet scale specifications for temperature environmental requirements.
- Be free of vibrations such as fork lift trucks close by, large motors, air currents or drafts from air conditioning/heating ducts, open windows, people walking by, fans, etc.
- Be clean and free of excessive dust.
- Work surface must be stable and level.
- Scale must not be exposed to direct sunlight or radiating heat sources.
- Use an approved Electro-Static Device.



1.2 TOOLS AND EQUIPMENT

1.2.1 Standard Tools and Test Equipment

The service shop should contain the following equipment:

1. Digital Voltmeter (DVM).
2. Standard Electronics tool kit.
3. Desk magnifier on a stand.
4. Grounding mat and clip.
5. Razor blades.

1.2.2 Special Tools

To service the Ohaus EB Series Scales, the following equipment is recommended:

1. A Load Cell Simulator.
2. AC Adapter, 220 V, 60 Hz (US) Ohaus P/N 80120000
3. AC Adapter, 230 V, 50 Hz (EU) Ohaus P/N 80120001
4. AC Adapter, 230 V, 50 Hz (GB) Ohaus P/N 80120002
5. AC Adapter, 240 V, 50 Hz (AU) Ohaus P/N 80120003
6. AC Adapter, 100 V, 50 Hz (JP) Ohaus P/N 80120004
7. AC Adapter, 230 V, 50 Hz (KR) Ohaus P/N 80120005

NOTE: Adapters required for servicing are location dependent.

1.3 CALIBRATION MASSES REQUIRED

The masses required to test the EB Series Scales must meet the requirements of ASTM Class 4 or OIML Class F2. The mass values are listed in Table 1-1.

TABLE 1-1. CALIBRATION MASSES

MODEL	Calibration Masses Totaling
EB3	3kg
EB6	6kg
EB15	15kg
EB30	30kg

Note: The EB Scales can be calibrated over a wide range, however, it is recommended that the calibration mass used is at or near the full capacity of the scale for maximum accuracy.

1.4 SERVICE STRATEGY

The repair method for the EB Series Scales is the direct substitution of major assemblies. The available repair parts are listed in Table 5-1.

The EB Series Scales contain 6 major replaceable assemblies: Top Housing, Membrane Switch, Load Cell Assembly with Frame, Lead Acid Rechargeable Battery, Display PC Board with LCD and the Main PC Board.

Note: The Load Cell and LCD may also be ordered and replaced separately.

1.5 SPECIFICATIONS

TABLE 1-2. SPECIFICATIONS

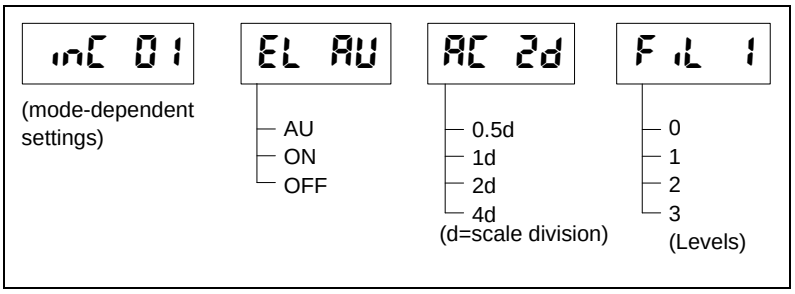
Model	EB3	EB6	EB15	EB30
Capacity x Readability	3 kg x 0.0001 kg 3000 g x 0.1 g 6.6 lb x 0.0002 lb 105 x 0.005 oz	6 kg x 0.0002 kg 6000g x 0.2g 13 lb x 0.0005 lb 208 x 0.01 oz	15 kg x 0.0005 kg 15000g x 0.5g 33 lb x 0.001 lb 528 x 0.02 oz	30 kg x 0.001 kg 30000g x 1g 66 lb x 0.002 lb 1,056 x 0.05 oz
Maximum Displayed Resolution	1:30000			
Construction	Stainless steel platform, plastic housing			
Weighing Units	kg, g, lb, oz			
Application Modes	Weighing, Counting, Hi-Lo Check-counting/weighing, Percent, Accumulation			
Display	1-Window backlit LCD display, 25.4mm / 1” high, 6-digit, 7-segment			
Display Indicators	Stability, Center of Zero, Gross, Tare, Battery Status, Hi-OK-Lo, Units			
Keyboard	7-function membrane switch: M+, Units, Zero, Tare, Check, Count, %			
Zero Range	4% of Full Scale Capacity			
Tare Range	Full Capacity by Subtraction (except EB15: up to 10kg only)			
Stabilization Time	< 2 seconds			
Operating Temperature	0° to 40°C			
Humidity Range	≤ 90% relative humidity, non-condensing			
Power	AC Adapter 12V DC / 800mA Internal rechargeable lead acid battery			
Battery Life	80 hours continuous use with 12 hour recharge time			
Calibration	Automatic external with kg/g mass, factory calibration recovery			
Shipping Protection	Shipping screw to avoid damage to sensitive components			
Safe Overload Capacity	120% of capacity			
Platform Size	294 x 226 mm / 11.6 x 8.9 in.			
Scale dimensions	325 x 330.5 x 114 mm / 12.8 x 13 x 4.5 in. (W x D x H)			
Shipping dimensions	440 x 360 x 160 mm / 17.3 x 14.2 x 6.3 in (W x D x H)			
Net Weight	4.2 kg / 9.3 lb			
Shipping Weight	5.3 kg / 11.7 lb			
Other Features	Auto-Zero Tracking, Filtering Level			

1.6 SCALE SETTINGS

The EB scale contains four user-selectable scale settings (Setup mode). These are as follows: Scale Increment, Backlight, Zero Tracking Range, and Filtering. A description of each setting is explained below.

1. To enter the setup mode, press and then release **COUNT** and **M+** at the same time to enter into the user-selectable scale settings.
2. In the Setup mode, press ▲ to step through available settings.
3. Press **Enter** to accept the displayed setting and proceed to the next parameter.
4. Press **Exit** to proceed to the next parameter without saving any changes.

Table 1-3. MENU STRUCTURE



inC 01 **Scale increment** - Sets the displayed scale increment (also known as readability or graduation). Selectable setup values will be model dependent and are equivalent to within 30,000 to 3,000 scale divisions.

EL AU **Backlight** - Sets the activation mode of the backlight.
The following settings are available: **AU** (Auto-on with items > 9d placed on the Platform or any button pressed; turns off after 5 seconds of inactivity), **On**, **oFF**.

AC 2d **Zero Display Range** - Sets the range in which the Zero reading is maintained.
The following settings are available: **0.5d, 1d, 2d, 4d** (d= scale division).

FiL 1 **Filtering** - Sets the level at which the Stable indication turns on; the higher the setting, the faster the stabilization time.
The following settings are available: **0, 1, 2, 3** (levels).

2. DIAGNOSIS

This section contains information needed to properly evaluate the reported problem and diagnose its cause.

2.1 SCALE SETUP AND EXAMINATION

Set up the scale according to the Instruction manual. Allow the scale to stabilize to room temperature. Examine the scale for signs of corrosion or physical damage.

2.2 PRELIMINARY CHECKS

Power up the scale using the customer's ac adapter. In the case where the scale will not power up, check the ac adapter. Observe and record the error codes and software revision. Record all menu settings as received.

2.3 TROUBLESHOOTING TABLES

Troubleshooting tables 2-1 through 2-7 identify actual types of problems that could be encountered with the scale.

The troubleshooting tables refer to the EB Scales Interconnection Diagram, Figure 2-2, to assist in locating the problem.

TABLE 2-1. SCALE WILL NOT TURN ON WITH AC ADAPTER

SYMPTOM	PROBABLE CAUSE	REMEDY
Unit will not turn on with AC adapter supplied	Adapter defective	Check the AC adapter voltage output (Section 2.5). If voltage is low or nonexistent, replace the AC adapter. If OK, proceed.
	Membrane Switch defective	Test the Membrane Switch (Section 2.6). Replace if necessary (Section 3.2).
		If the scale fails to turn on with a new Membrane Switch, test the Main PC Board (Section 2.8). If defective, replace the Main PCB (Section 3.3.1). After repair, proceed with Performance Tests in Chapter 4.

TABLE 2-2. SCALE WILL NOT TURN ON USING BATTERY POWER

SYMPTOM	PROBABLE CAUSE	REMEDY
Scale will not turn on using battery power.	Battery discharged or defective.	Test the battery (Section 2.9). Replace if necessary (Section 3.6).
	Wiring harness defective or battery clips connection broken.	Open the scale (Section 3.1). Check voltage at battery contacts first. Check DC voltage at the battery connector on the Main PC Board. Voltage should read approximately 6 Volts DC minimum. If voltage is not present at the connector, disconnect the leads from the battery and make a continuity test between the connectors on the Harness to the connector on the Main PC Board. Resistance should be 0 ohms for the red lead and 0 ohms for the black lead. If an open condition exists, replace wiring and connector as necessary. If OK, proceed.
	Membrane Switch defective.	Test the Membrane Switch (Section 2.6). Replace if necessary (Section 3.2).
	Main PC Board is defective.	If the scale fails to turn on with a new Membrane Switch, test the Main PC Board (Section 2.8). If defective, replace the Main PCB (Section 3.3.1). After repair, proceed with Performance Tests in Chapter 4.

TABLE 2-3. SCALE DOES NOT RESPOND TO FRONT PANEL CONTROLS.

SYMPTOM	PROBABLE CAUSE	REMEDY
Scale does not respond to front panel controls.	Membrane Switch defective	Test the Membrane Switch (Section 2.6). Replace if necessary (Section 3.2). If membrane switches are OK, test the Main PC Board (Section 2.8). If defective, replace the Main PCB (Section 3.3.1). After repair, proceed with Performance Tests in Chapter 4.

TABLE 2-4. NO DISPLAY OR PARTIAL DISPLAY.

SYMPTOM	PROBABLE CAUSE	REMEDY
Display is not on or partial characters are displayed.	Display PC Board is defective or LCD may be defective. **NOTE**: If the LCD shows signs of damage such as cracked, dim or partial characters, the LCD should be replaced.	The Display PC Board is replaced as a whole assembly. Check procedures in Tables 2-1, 2-2 and 2-3 first and verify that other problems do not exist. Replace Display PC Board or LCD. See Repair Procedures 3.3.2 and 3.3.3. After repair, proceed with Performance Tests in Chapter 4.

TABLE 2-5. BALANCE READING INCORRECT OR UNSTABLE.

SYMPTOM	PROBABLE CAUSE	REMEDY
Balance reads incorrectly. Balance reading unstable.	Needs calibration.	Perform Service Calibration in Appendix B. If calibration fails, refer to Table 2-6.
	Load Cell is damaged.	Test the Load Cell (Section 2.7). If defective replace it (Section 3.4). After repair, proceed with Performance Tests in Chapter 4.
	Main PC Board defective.	Test the Main PC Board (Section 2.8). If defective, replace it (Section 3.3). After repair, proceed with Performance Tests in Chapter 4.

TABLE 2-6. CANNOT CALIBRATE THE SCALE.

SYMPTOM	PROBABLE CAUSE	REMEDY
Scale can be turned on but will not calibrate.	Incorrect weights.	Verify that proper weights are used.
	Load cell assembly defective.	Test the Load Cell (Section 2.7). If defective replace it (Section 3.4). After repair, proceed with Performance Tests in Chapter 4.
	Main PC Board defective	Test the Main PC Board (Section 2.8). If defective, replace it (Section 3.3). After repair, proceed with Performance Tests in Chapter 4.

2.4 EB SERIES SCALES ERROR CODE TABLE

The EB Series Scales is equipped with software which will display an error condition when it occurs. Review the listed codes and follow instructions to correct the problem.

TABLE 2-7. EB SERIES SCALES ERROR CODES

ERROR CODE	PROBABLE CAUSE	REMEDY
E1, E2, E3 displayed	The pan is placed incorrectly.	Reposition the Pan correctly.
	Zero limit exceeded during power up.	Ensure the Pan is empty before switching the scale on.
	Load Cell Assembly Defective.	Test the Load Cell (Section 2.7). If defective replace it (Section 3.4).
		After repair, proceed with Performance Tests in Chapter 4.
	Main PC Board defective	Test the Main PC Board (Section 2.8). If defective, replace it (Section 3.3).
		After repair, proceed with Performance Tests in Chapter 4.
--OL— displayed	Load exceeds scale capacity.	Reduce the load on the Pan.
	Load cell defective.	Test the Load Cell (Section 2.7). If defective replace it (Section 3.4).
		After repair, proceed with Performance Tests in Chapter 4.
	Main PCB is defective.	Test the Main PC Board (Section 2.8). If defective, replace it (Section 3.3).
		After repair, proceed with Performance Tests in Chapter 4.

2.5. TESTING THE AC ADAPTER

The AC Adapters are available with different input voltages. Before testing the Adapter, make sure the Adapter rating agrees with the power source being used. All Adapters are rated with an output of 12 V dc at 800mA. Adapters can fail by having shorted internal windings producing low voltage output or no output at all.

1. Plug the AC Adapter in a suitable power source and measure the open circuit voltage on connector it should be 10 V dc to 16 V dc.

2. Refer to Section 4.1 and remove the Top Housing. Plug the AC Adapter into the scale and measure the voltage on the battery terminals. Turn the scale on. The voltage should be 6.5 Volts dc minimum, and 7.5 Volts dc maximum. If the voltage is below or above these readings, replace the Adapter. This is the actual battery voltage while charging.

2.6 TESTING THE MEMBRANE SWITCH

The Membrane Switch can be tested after removing the Top Housing from the Bottom Housing.

1. Refer to Section 4.1 and remove the Top Housing.

2. Disconnect the Membrane Switch connector from the Display PCB.

3. Refer to Table 3-1. Using an Ohmmeter, measure the resistance between the pins shown in the table. The readings should be less than 70 Ohms for each button. If continuity is not present or the resistance is higher than 100 Ohms, the Membrane Switch is defective. Replace the Membrane Switch. Figure 3-1 illustrates the cable connector and pin locations.

4. Reassemble Top Housing to Bottom Housing.

TABLE 2-8. MEMBRANE SWITCH PIN CONNECTIONS.

PANEL BUTTON	PINS
M+	1 to 2
UNITS	1 to 3
ZERO	1 to 4
TARE	1 to 5
CHECK	1 to 6
COUNT	1 to 7
%	1 to 8

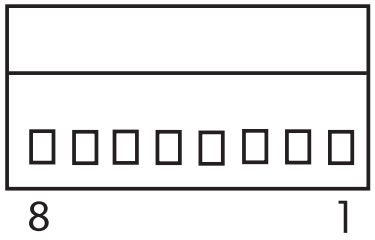


Figure 2-1. Membrane Switch Connector.

2.7 TESTING THE LOAD CELL ASSEMBLY

This section contains two methods of testing the Load cell.

2.7.1 Resistance Test

1. Refer to Section 3.1 and remove the Top Housing.
2. Refer to Figure 3-2 and record color code and position of the wires from the Load Cell.
3. Unsolder the Load Cell cable from the Main PC Board. Using an Ohmmeter, measure in accordance with Table 2-9 Load Cell Resistance Readings on the cable. If the resistance readings vary more than the table readings allow, replace the Load Cell in accordance with the procedure in Section 3.4 or 3.5. This resistance test is useful in determining if the Load Cell has been severely damaged by a short or open circuit which has occurred on the cell or wiring. If the Load Cell resistance readings are good, continue with this procedure.

TABLE 2-9. LOAD CELL RESISTANCE READING.

MEASUREMENT POINTS	READING
WIRES 2 & 5	415 ± 15 Ohms
WIRES 3 & 4	350 ± 3 Ohms

NOTE: Wires 2, 3, 4 and 5 must be isolated from chassis ground and shield. Resistance should be greater than 5 megohms. A lower reading indicates a short in either in the Load Cell cable or the Load Cell.

4. Reconnect Load cell cable to the Main PCB.

2.7.2 Excitation and Output Voltage Test

Notes:

– The following steps involve power applied to the scale.

– Load Cell solder contacts can be used as measuring points. See Figure 2-2.

1. Insert the Pan Support into the Load Cell Frame and place the Pan on top.
2. Turn on power to the scale.
3. With no load on the Pan, first measure the excitation voltage across point 2 and 5 Load Cell connection on the PCB. This voltage must be 5.0 Volts dc with the Load cell connected. If the voltage is lower, disconnect the Load Cell cable from the PC Board and measure again. If the voltage is 5 Volts dc, the Load Cell is defective and must be replaced. If the voltage remains low, the PC Board is defective and the Main PC Board must be replaced. For Main PC Board replacement, see Section 4.3.
4. Refer to Figure 2-2 and measure the voltages on points 3 and 4, +SIG and –SIG points. These measurements represent the output of the Load Cell. Repeat measurements at 50% and full scale capacities. See Table 2-10 for typical readings.

2.7.2 Excitation and Output Voltage Test *continued*

Note: Table 2-10 indicates typical readings. Actual values can vary, but should remain linear throughout the entire range.

If readings are out of tolerance, replace the Load Cell. See Section 3.4 or 3.5 for Load Cell replacement.

TABLE 2-10. LOAD CELL OUTPUT READING.

NOMINAL OUTPUT IN MILLIVOLVTS AT 5 VOLTS EXCITATION			
CAPACITY	NO LOAD	50%	100%
3 kg	2.7 ±1.5	no load + 3.2	no load + 6.4
6 kg	1.9 ±1.5	no load + 4.4	no load + 8.8
15 kg	1.2 ±1.5	no load + 5.2	no load + 10.3
30 kg	0.5 ±1.5	no load + 4.9	no load + 10.4

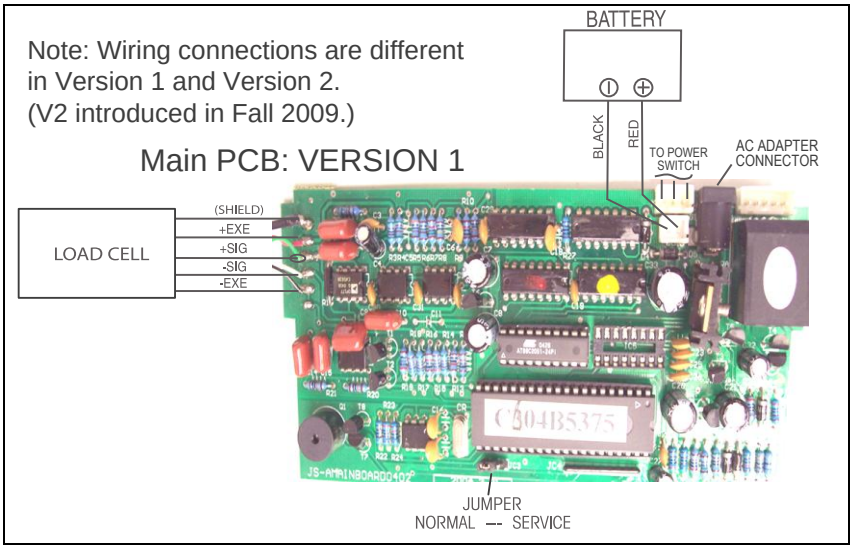


Figure 2-2. EB Interconnections: Version 1.

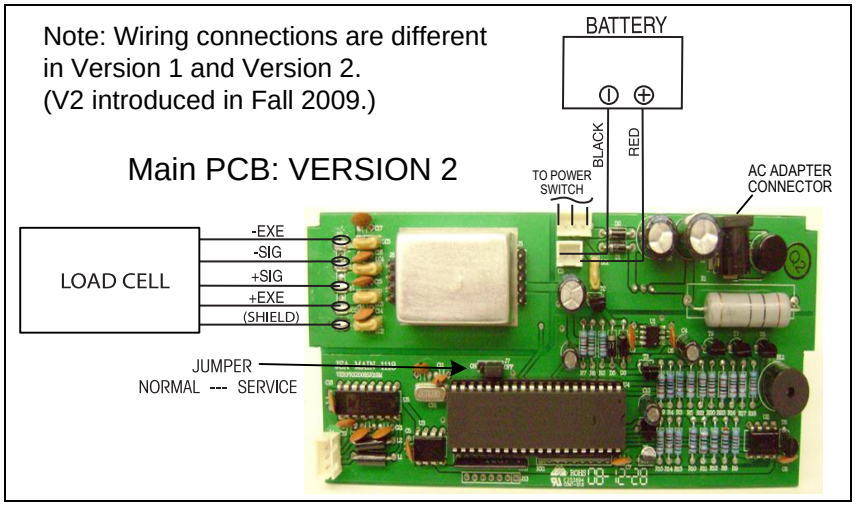


Figure 2-3. EB Interconnections: Version 2.

2.8 TESTING THE MAIN PC BOARD

The Main PC Board can be tested by measuring voltages and by using a simulator. The simulator replaces the Load Cell during testing and is a useful tool for diagnosing problems.

2.8.1 Main PC Board Voltage Measurements

Prior to making the voltage measurements, the battery should have been fully charged and tested.

1. Disconnect power from the scale.
2. Remove the Top housing, refer to Section 3.1 and leave the Membrane Switch connected to the scale.
3. Disconnect the battery from the Main PC Board.
4. Remove screws and washers holding the Main PC Board and lift out the board and lay it flat.
5. Connect the AC Adapter to the scale.
6. Refer to Figure 2-2, Interconnection Diagram which illustrates the interconnections to the Main PC Board and is shown as a top view.
7. Turn the scale on.
8. Using a DVM, measure the excitation voltage across +EXE and -EXE leads it should be 5 volts dc. This is the excitation voltage for the Load Cell and is regulated. If the voltage is lower, replace the Main PC Board, refer to Section 4.3 and then proceed with Performance Tests in accordance with Chapter 4.
9. Measure incoming power from the AC Adapter connector shown in Figure 2-2. The voltage should read above 6 Volts dc with power on.
10. Connect the battery to the Main PC Board and measure the voltage across Black and Red leads on the battery connector. The full battery voltage should read a minimum of 6.0 Volts dc. If the voltage is lower, the battery may require charging or it may be defective. Refer to Section 2.7 and test the battery.
11. Perform simulator testing.

2.8.2 Simulator Testing

To perform these tests, the use of a Simulator is required. The basic function of a Simulator is to simulate the output of a full bridge Load Cell allowing the scale to be separated from the Load Cell for the purposes of troubleshooting and calibration. The Load Cell used in the scale is rated at 2mV/V output with a 5 Volt excitation voltage applied.

2.8.2.1 General Load Test

This test checks the Main PC Board circuitry by simulating accurate load cell voltages at 0%, 50% and 100% load capacities.

1. Disconnect power from the scale.
2. Remove the Top housing, refer to Section 3.1 and leave the Membrane Switch connected to the scale.
3. Disconnect the battery.
4. Unsolder the Load Cell cable from the Main PC Board. Refer to Figure 2-2 for location.
5. With the Simulator set to zero, connect the Simulator test leads to the Main PCB by soldering test leads in place of the load cell. Make sure connections are correct.
6. Connect a known good AC Adapter to the scale and connect to a power source.
7. Turn on the scale, an error may be displayed. This is normal.
8. Review Table 2-10 and adjust the Simulator to simulate 0% load, 50% load and 100% load for the rated capacity of the scale. If the resulting readings are unstable, the Main PC Board is defective. Use the Simulator to calibrate the scale in the next procedure to verify if the Main PC Board is good or bad.

2.8.2.2 Calibration Test

This test calibrates the scale using the simulator and can verify that the Main PC Board is functioning properly or improperly.

1. With the scale on and the Membrane Switch connected, enter calibration mode by pressing and holding the **Zero** switch until CAL is displayed and perform calibration.
2. Follow the scale prompts. When the scale indicates a given weight should be placed on the scale, set the simulator to an equivalent value based on Table 2-10. For example, when a span value of 3 kg for a 3 kg scale is shown, the simulator should be set to output 9.1mV (2.7 + 6.4).
3. Upon completion of calibration, the Main PC Board can be further checked using the Simulator to simulate various weight values. If simulator settings and weight reading on the scale agree, the Main PC Board is functional. If the scale readings vary, or do not agree with readings in Table 2-10, the Main PC Board is defective and should be replaced.
4. Remove power from the scale and proceed with Section 3.3 and replace the Main PC Board.
5. After Main PC Board replacement and assembly of the scale, proceed with Performance Tests in Chapter 4.

2.9 TESTING THE BATTERY

The EB Series Scales contains a rechargeable, 6.0 Volt, 5.0 Ampere rated, Lead-Acid Battery.

2.7.1 Precautions for Battery Handling

WARNING! DEATH OR SERIOUS INJURY CAN OCCUR

- Charge the battery only with the charger in the scale. Charging the battery under any other conditions may cause the battery to overheat, emit hydrogen gas, Leak, ignite or burst.
- Operate the battery at normal temperature range as specified for the scale.
- Do NOT short the battery terminals under any conditions.
- Do NOT dispose of the battery in incinerators, or crush or try to open. Dispose of the defective battery in accordance with local regulations for lead-acid type batteries.

CAUTION

- Check the battery for any sign of irregularities in appearance. If there is any damage to the case such as cracks, deformation or leakage, replace the battery with a new one.
- Do NOT charge the battery with the charger terminals reversed.

2.9.2 Battery Tests

A new battery when installed in the EB Series Scales will provide many years of useful service. The length of service depends upon the type of use of the scale. If left connected to the AC Adapter all of the time, the battery receives a small charge when the battery voltage is low, service life can be many years. The EB Series Scales can be operated for up to 80 hours per charge. Battery life can be maximized by frequent charging.

1. Upon receipt of the scale, plug in the AC Adapter to a power source and the scale. Allow the battery to charge. If the battery required a charge, the battery indicator on the front of the LCD display will indicate charging. Green indicates fully charged, yellow indicates a partial charge and red, indicates the battery is nearly discharged.

2. Refer to Section 3.1 and remove the Top Housing. Leave the Membrane Switch on the cover connected to the scale.

3. With the AC Adapter connected, measure the battery voltage at the battery terminals; the voltage should be approximately **6 to 7 Volts dc** when charging. The voltage should be above **6.0 Volts dc** ten minutes after charging stops.

   NOTE: If the scale operates less than 80 hours, charge the battery and turn on the scale and test how long the scale operates. If the scale operates less than 40 hours with no backlight, the battery should be replaced. This is 50% capacity.

4. If the battery requires replacement, refer to Section 3.6, charge the new battery overnight and check scale performance.

3 REPAIR PROCEDURES

This section describes how to change individual components of the EB Series Scales. When doing this, please refer to the drawings and parts lists in Section 5.

Important: After replacing components, a Performance Test must always be carried out. (See Chapter 4.)

3.1 REMOVING TOP HOUSING

To gain access to the components in the scale, perform the following procedures.

1. Remove power from the scale by disconnecting the AC adapter. Make sure the scale is off.
2. Carefully lift and remove the Pan and Pan Support from the scale.
3. Turn the scale over and remove the screws, which hold the Top Housing. Refer to Figure 3-1.

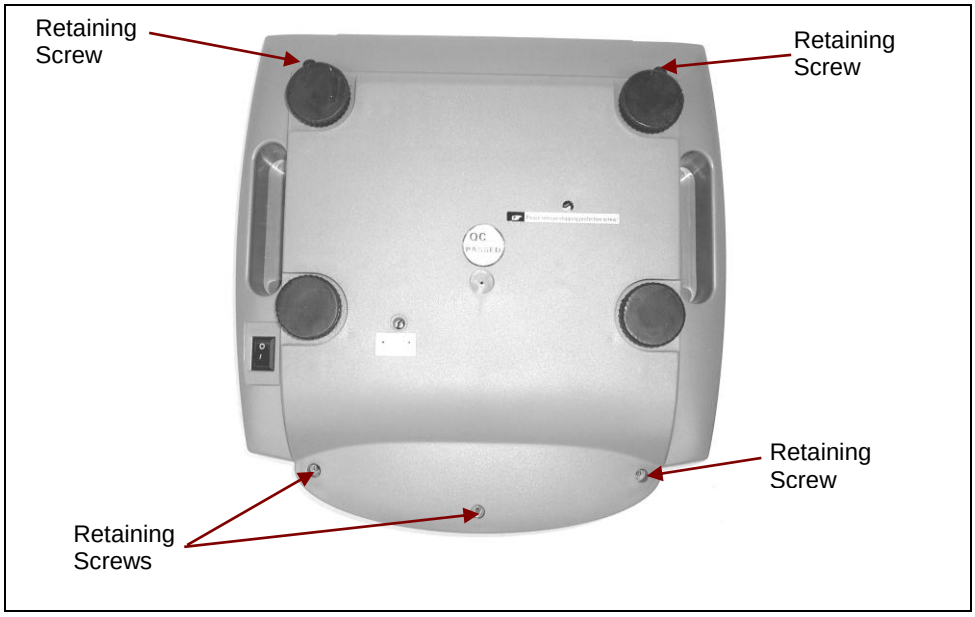


Figure 3-1. Retaining Screws on Bottom of Housing.

CAUTION
Use care in the next step as the Display PCB wiring is attached to the Main PCB.

4. Place the scale in the upright position and carefully lift the Top Housing from the Base and tilt forward. Reach under the Top Housing from the front and carefully disconnect the flexible cable from connector on the Display PC board.
5. Set the Top Housing aside.

3.2 REPLACING THE MEMBRANE SWITCH

The membrane switch is affixed to the Top Housing of the scale. To replace the Membrane Switch, the scale must be disassembled to gain access to the switch connections.

1. Refer to Section 3.1 and remove Top Housing.

CAUTION
Use care in the next step as the Display PCB wiring is attached to the PCB.

2. Place the scale in the upright position and carefully lift the Top Housing from the Base Housing.

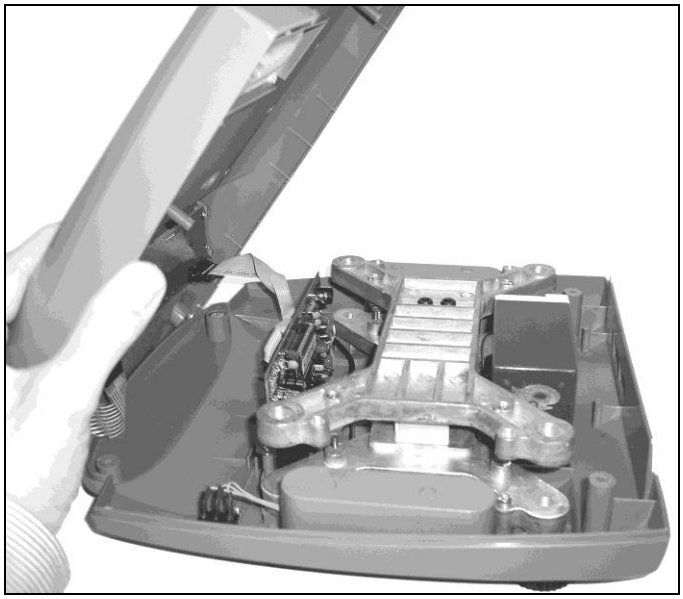


Figure 3-2. Removing the Top Housing.

3. Carefully disconnect the ribbon cable from connector on the Display PC board. See Figure 3-3.

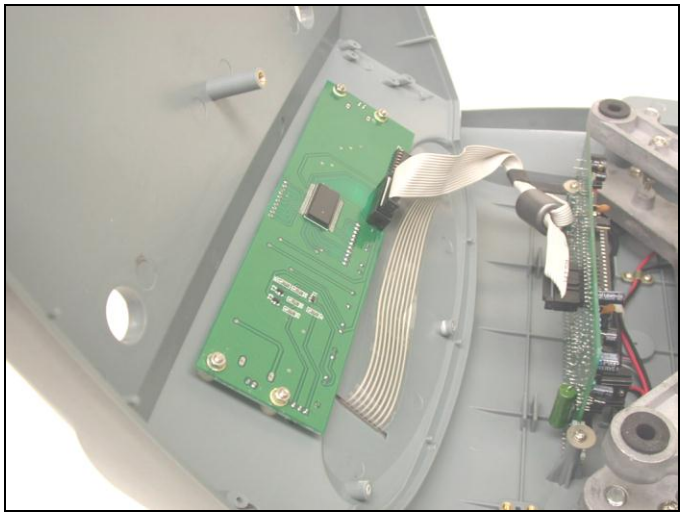


Figure 3-3. Ribbon Cable from Main PCB to Display PCB.

3.2 REPLACING THE MEMBRANE SWITCH *continued*

4. Disconnect the Membrane Switch Cable from the Display PCB as shown in Figure 3-4.

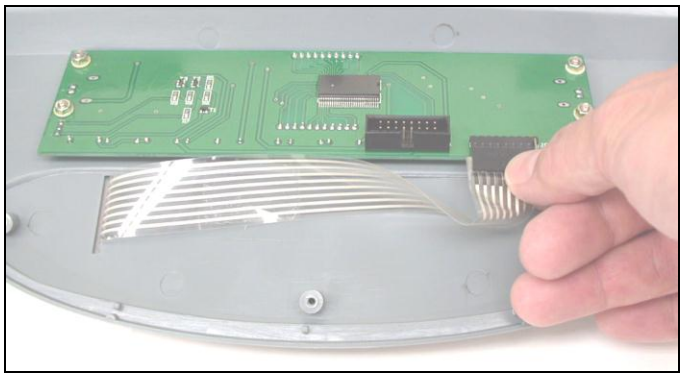


Figure 3.4. Disconnecting the Membrane Switch Cable.

5. On the Top Housing, lift up the defective Membrane Switch (if necessary carefully prying it up with a knife) and gently peel it off the Top Housing.
6. Carefully clean the Top Housing membrane switch area (removing all traces of adhesive). The best method is to use a flat razor blade.
7. Insert the cable from the new Membrane Switch through the hole in the Top Housing. Peel off the protective film from the new Membrane Switch and carefully align and affix to the Top Housing.
8. Press the Membrane Switch down uniformly. Using your fingers with a cloth, roll from the center of the Membrane Switch outward towards the edges to remove any air bubbles that may be trapped.
9. Position the Top Housing in place over the Bottom Housing and connect the flexible cable from the Main PC Board to Display PC Board.
10. Reassemble the scale by replacing the five screws at the bottom of the scale which secure the Top housing.
11. Replace the Pan Support and Pan on top of the scale.

3.3 MAIN PC BOARD

The Main PC Board is located in the Bottom Housing. To replace the Main PC Board, it is necessary to disassemble the scale.

3.3.1 Main PC Board Replacement

1. Refer to Section 4.1 and remove the Top Housing.
2. At the rear of the Bottom Housing, disconnect the Red battery lead from the Battery. (See Figure 4-5 for location.) This is necessary to prevent damage to the circuitry and the Battery if the wiring is accidentally shorted during servicing.

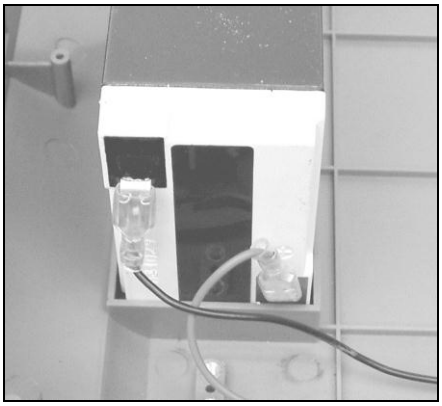


Figure 3.5. Battery Terminal Connector.
(Note the positioning of the cable for reassembly.)

3. Remove the screws and washers holding the Main PCB in place. See Figure 3-6.
4. Disconnect the Display Cable coming from the Display PC Board on the Main PCB.

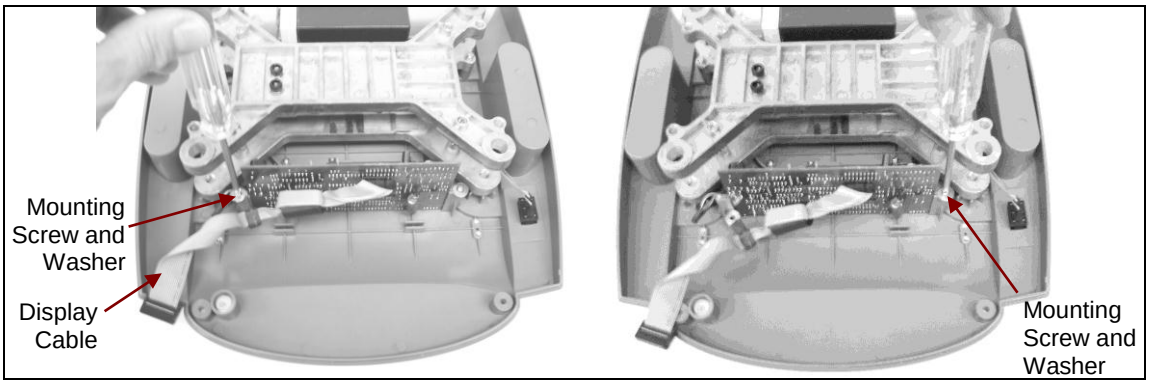


Figure 3-6. Main PC Board Screws and Washers.

5. Carefully lift the Main PCB up and out of the slots in the supporting posts. You may have to rock the Board from left to right to lift it out.

3.3.1 Main PC Board Replacement *continued*

6. Remove Battery and On/Off Switch connector plugs from the Main PC Board.

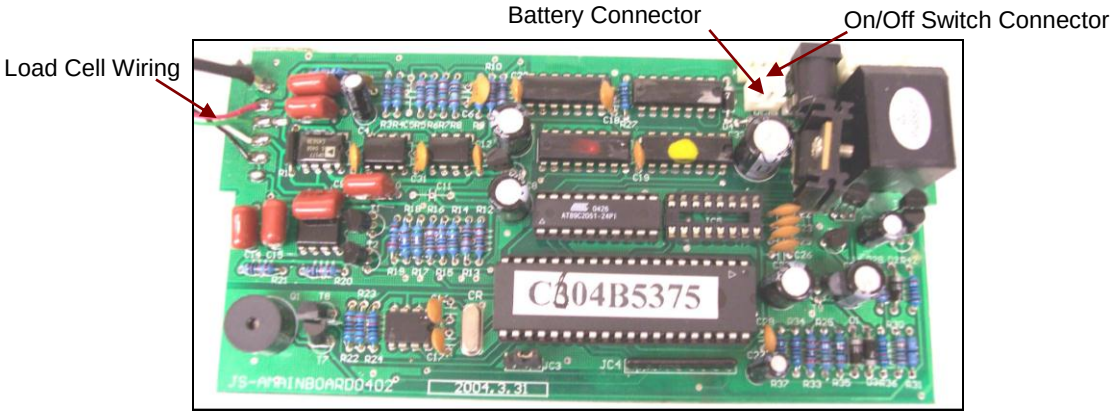


Figure 3-7. Main PCB, Version 1.

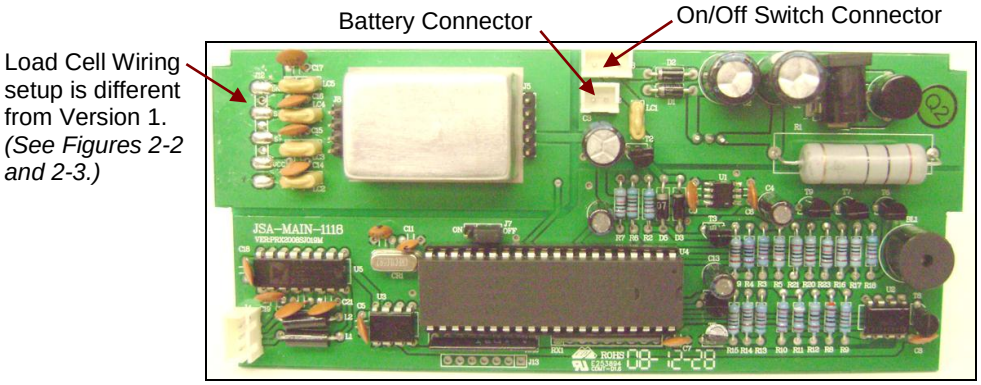

Battery Connector
On/Off Switch Connector
Load Cell Wiring setup is different from Version 1. (See Figures 2-2 and 2-3.)
JSA-MAIN-1118

Figure 3-8. Main PCB, Version 2.

7. Unsolder the Load Cell wiring from the Main PC Board. (**Note:** Wiring configuration will change if replacement board is Version 2: see Figures 3-8 and 2-3.

8. On the replacement Main PC Board, install the Battery and Switch connectors.

9. Refer to Figure 2-2 and solder the Load Cell wiring to the replacement Main PC Board. Make sure that the color coded wiring is installed in the correct locations.

10. Connect the Display Cable to the Main PC Board connector. (See Figure 3-9.)

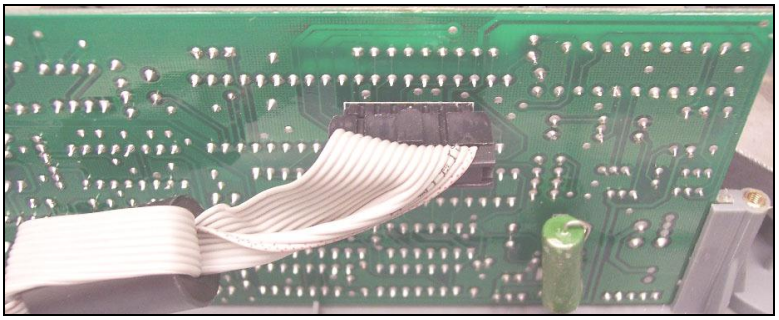


Figure 3-9. Display Cable installed on Main PCB.

3.3.1 Main PC Board Replacement *continued*

11. Install the Main PC Board into position in the slots on the Bottom Housing and secure with the screws and washers previously removed.
12. Connect the Battery connector to the Battery.
13. If necessary (on very early models), move the Main PC Board Jumper from normal to service position. (See Figure 2-2.)
14. Position the Top Housing in place over the scale temporarily and install the Platform Support and Platform in place.
15. Configure the new PCB: set units, capacity, readability, etc. (See Appendix A.)
16. Calibrate the scale according to the Instructions in Appendix A. (If necessary, after calibration, turn off the scale and replace the jumper into the normal position.)
17. Reassemble the scale and replace the Platform Support and Platform on top of the scale.
18. Turn the scale on. It will go through all the self-testing and operate normally.
19. After repair, initiate Performance Tests, see Chapter 4.

3.3.2 Display PC Board Replacement

1. Refer to Section 3.1 and remove the Top Housing.
2. Disconnect the Ribbon Cable from the Display PC board. See Figure 3-10.

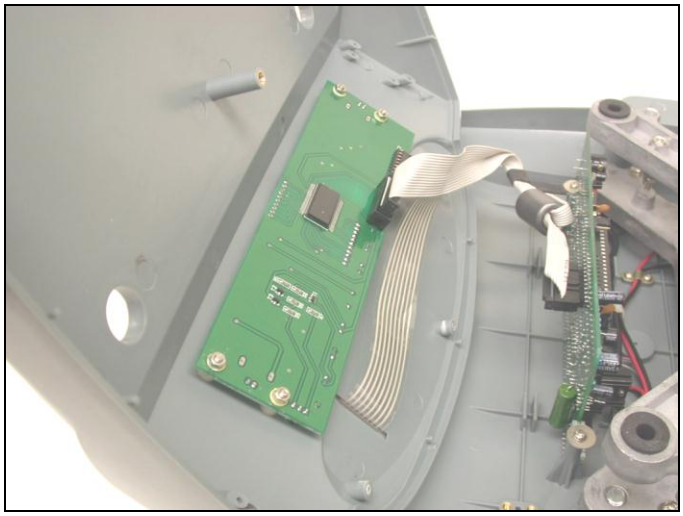


Figure 3-10. Ribbon Cable from Main PCB to Display PCB.

3. Disconnect the Membrane Switch Cable from the Display PCB. See Figure 3-11.

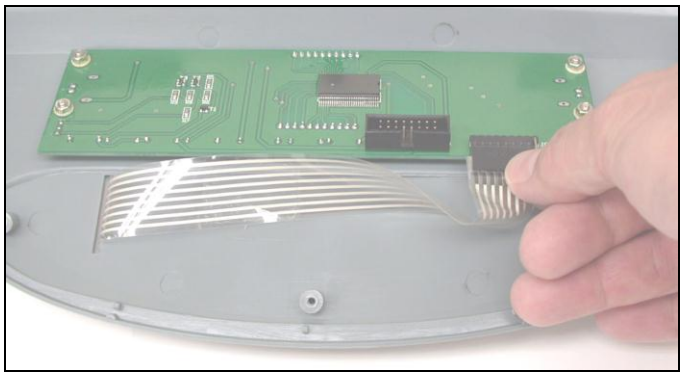


Figure 3-11. Disconnecting Membrane Switch Cable from Display PCB.

4. Remove six screws that hold the Display PCB to the Top Housing. See Figure 3-12.

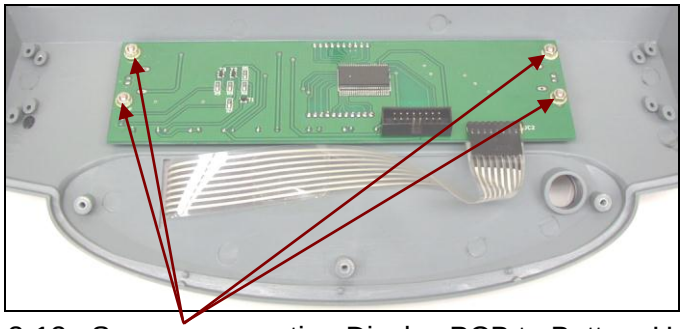


Figure 3-12. Screws connecting Display PCB to Bottom Housing.

3.3.2 Display PC Board Replacement *continued*

5. Examine the replacement Display PC board and remove all protective plastic film that may be covering the LCD display.
6. Install the replacement Display PC board with the screws previously removed.
7. Connect the Membrane Switch Cable from the Top Housing to the Display PC Board and the Ribbon Cable from the Main PC Board to the Display PC Board.
8. Reassemble and test the scale according to Performance Tests in Chapter 4.

3.3.3 LCD Replacement

This procedure is performed when an LCD shows signs of visible damage such as a cracked glass or partial display and the scale operates normally in all other functions.

NOTE: This procedure is very difficult and should not be attempted unless you have the proper tools.

1. Perform steps 1 through 4 of Section 3.3.2.
2. Carefully unsolder all contacts of the defective LCD and remove the LCD. All solder holes on the Display PC board must clean and open to accept the pins of the LCD.
3. Solder all connections, check the Display PC Board and make sure that solder has not spilled over to other connections. Remove any protective film from the LCD and replace the LCD.
4. Continue with steps 6 through 8 of Section 3.3.2.

3.4 REPLACING THE LOAD CELL ASSEMBLY (WITH FRAME)

The Load Cell Assembly is centrally located inside the scale. The Load Cell is factory assembled and the overload protection stops are installed. The overload protection stops should be checked before installation.

1. Refer to Section 3.1 and remove Top Housing.
2. Turn the scale over and remove the four feet by unscrewing them counter-clockwise. The feet are actually screwed into the Load Cell Frame.
3. Refer to Section 3.3.1 and perform steps 1 through 7 to gain access to the Load Cell wiring on the Main PC Board and unsolder the connections.
4. Remove the four screws holding the Load Cell Assembly to the bottom housing. See Figure 3-14 for screw locations.

Figure 3-13. Feet on Bottom of Scale.

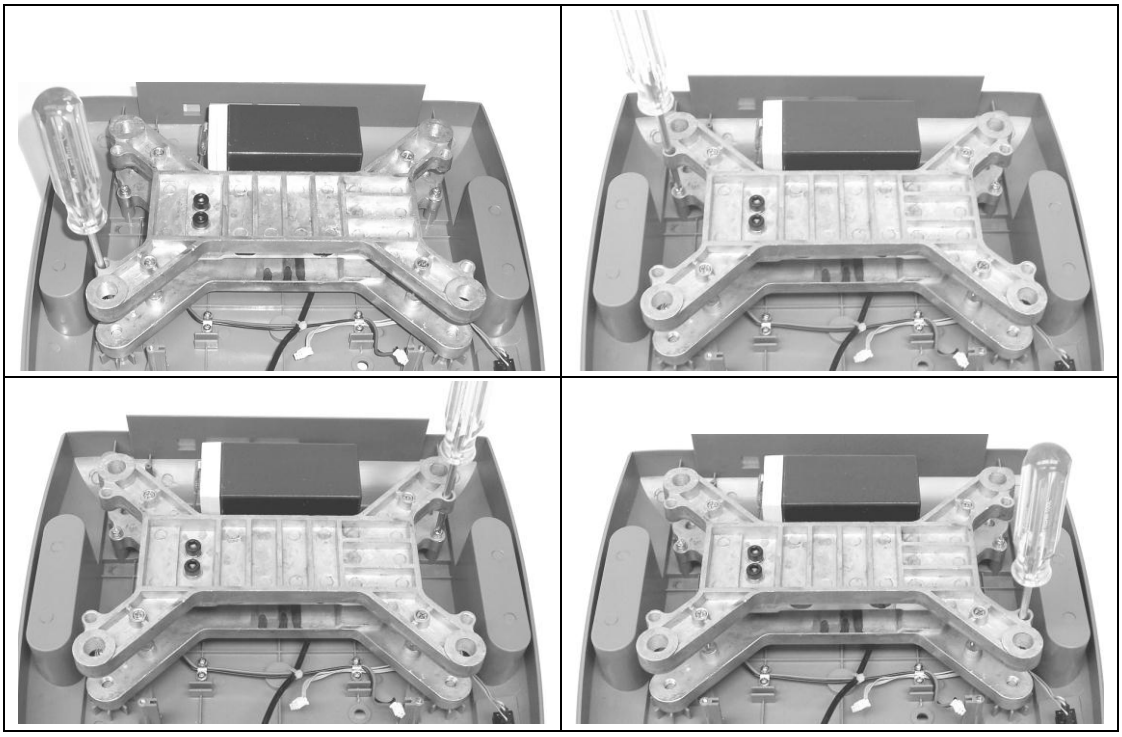


Figure 3-14. Load Cell Retaining Screw Locations.

3.4 REPLACING THE LOAD CELL ASSEMBLY (WITH FRAME) *continued*

5. Refer to Section 3.5.1 and check overload stops on the new assembly.
6. Lift the Load Cell Assembly out of the Bottom Housing and replace with the new one. Install screws.
7. Solder the Load Cell wiring to the Main PC Board. Make sure that the color coded wiring is installed in the correct locations. (See Figures 2-2 and 2-3 and the label on the replacement Load Cell.)
8. Reconnect the battery and power connectors to the Main PC Board and connect the battery terminal wiring to the battery.
9. Connect the Display Cable from the Display PC Board to the Main PC Board.
10. Install the Main PC Board into position in the slots on the Bottom Housing and secure with the screws and washers previously removed.
11. If necessary (on very early models), move the Main PC Board Jumper from normal to service position. (See Figure 2-2.)
12. Position the Top Housing in place over the scale temporarily and install the Platform Support and Platform in place.
13. Calibrate the scale according to the Instructions in Appendix A. (If jumper was moved in Step 11, turn off scale after calibration and move the jumper to the normal position.)
14. Reassemble the scale and replace the Platform Support and Platform on top of the scale.
15. Turn the scale off then on. It will go through all the self-testing. When self-testing is completed, the scale should work normally.
16. After repair, initiate Performance Tests. (See Chapter 4.)

3.5 REPLACING THE LOAD CELL COMPONENT

This procedure is used when it is desired to keep the existing Load Cell Frame and replace only the Load Cell. The Load Cell Assembly is centrally located inside the scale. When the new Load Cell is mounted to the existing Frame, the Overload Protection Stops must be adjusted.

1. Refer to Section 3.1 and remove Top Housing.

2. Refer to Section 3.4 and perform steps 1 through 4. The Load Cell and Frame can now be removed. Make sure the Load Cell Cable in the Bottom Housing can be removed by cutting the tie wrap holding the battery wires together with the Load Cell cable.

3. Remove the Load Cell, by unscrewing two bolts on the top of the Load Cell and two bolts on the bottom of the Load Cell. See Figure 3-15.

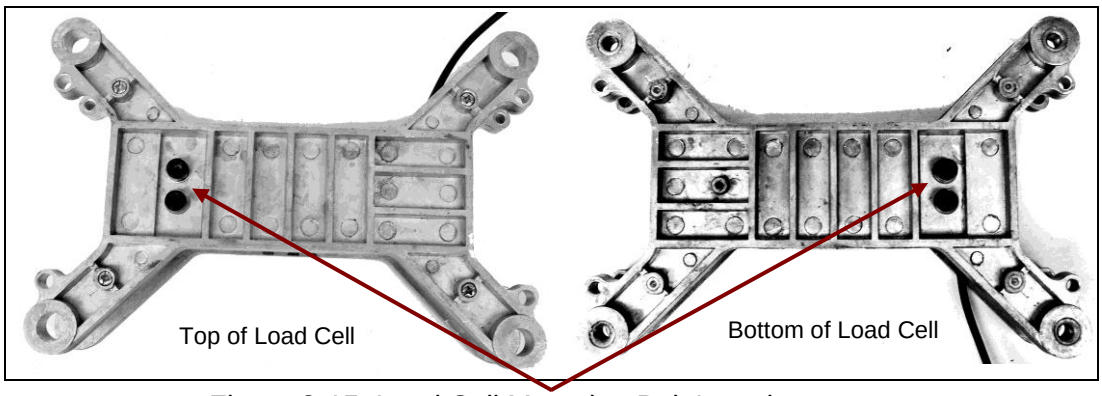


Figure 3-15. Load Cell Mounting Bolt Locations.

4. Place the replacement Load Cell on the Bottom Load Cell Frame into position and install the two bolts previously removed. **DO NOT TIGHTEN.**

5. Position the Top load Cell Frame on top of the Load Cell and install the two bolts previously removed. **DO NOT TIGHTEN.**

TABLE 3-1. LOAD CELL SCREW TORQUE SETTINGS.

CAPACITY	TORQUE
3 kg	7 N.m / 62 in. lb
6 kg	10 N.m / 88 in. lb
15 kg	10 N.m / 88 in. lb
30 kg	10 N.m / 88 in. lb

6. Align Top and Bottom Frames and tighten screws as indicated. Recheck alignment.

3.5 REPLACING THE LOAD CELL COMPONENT *continued*

7. Position the Load Cell and Frame in the Bottom Housing and install the four retaining screws through the Frame into the Bottom Housing. See Figure 3-16.

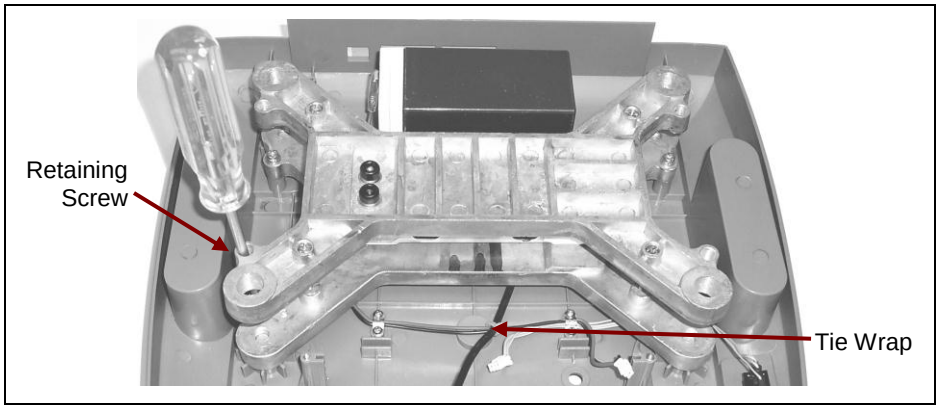


Figure 3-16. Load Cell Frame Mounting Bolt Locations.

8. Install a cable clamp holding the Load Cell cable on the bottom of the Frame assembly to the other wires in the Housing.

9. Proceed to section 3.5.1 and set the overload stops.

3.5.1 Overload Protection Stop Adjustment

When a Load Cell has been replaced in the existing Load Cell frame, the Overload Protection Stops must be set before calibrating or testing the scale. This will require the use of mm feeler gauges ranging from 0.6 to 1.6 mm and masses. See Table 3-2.

1. At each Overload Stop Protection location, insert the proper feeler gauge as specified in Table 3-2.

2. With the correct feeler gauge positioned in the first Overload Protection Stop, press down on the Frame and see if there is movement of the frame. Adjust the Overload Protection Stop until there is no movement with the feeler gauge inserted. The resulting gap should be the thickness of the feeler gauge. Do all four stops and recheck until settings are correct.

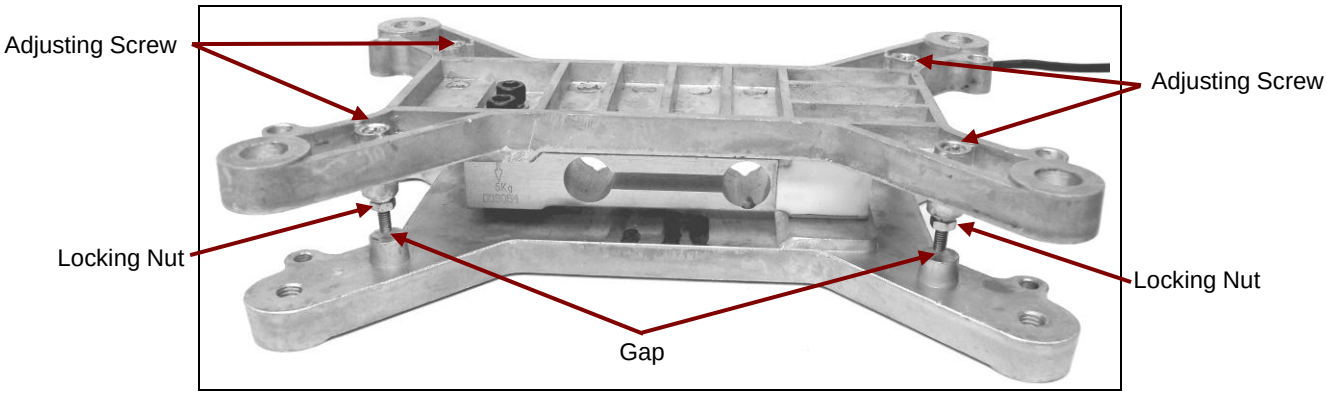


Figure 3-17. Overload Stop Locations.

3.5.1 Overload Protection Stop Adjustment *continued*

3. Add the mass specified in Table 3-2. The mass should be placed on the center of the Pan. With the specified mass on the Pan, all of the overload (down) stops should hit the bottom Load Cell Frame.

4. Tighten the nut on the down stop screws so they will not move and recheck.

TABLE 3-2. LOAD CELL OVERLOAD PROTECTION STOP GAP SETTINGS.

SCALE CAPACITY	OVERLOAD GAP SETTING	MASS
3 kg	0.6mm	4.5kg
6 kg	0.8mm	9 kg
15 kg	1.0mm	22.5kg
30 kg	1.6mm	45 kg

5. Reassemble the scale.

6. Calibrate the scale using Appendix B instructions. Check all operations.

3.6 REPLACING THE BATTERY

WARNING! DEATH OR SERIOUS INJURY CAN OCCUR

- Charge the battery only with the charger in the scale. Charging the battery under any other conditions may cause the battery to overheat, emit hydrogen gas, Leak, ignite or burst.
- Operate the battery at normal temperature range as specified for the scale.
- Do NOT short the battery terminals under any conditions.
- Do NOT dispose of the battery in incinerators, or crush or try to open. Dispose of the defective battery in accordance with local regulations for lead-acid type batteries.

CAUTION

- Check the battery for any sign of irregularities in appearance. If there is any damage to the case such as cracks, deformation or leakage, replace the battery with a new one.
- Do NOT charge the battery with the charger terminals reversed.

1. Remove the Top housing. (See Section 3.1.)
2. Disconnect the two wires from the battery. See Figure 3-18 which is a close-up view.
3. Remove the Battery from the Bottom Housing.
4. Install a replacement Battery into the same position as the original Battery. The positive terminal (Red) should be facing up.
5. Connect the wires to the Battery. Make sure the Red wire is attached to the positive terminal on the Battery and the Black wire is attached to the negative terminal.

Figure 3.18. Battery Connections.

Note: The Battery is held in place by the Top Housing that has a cutout and foam backing. When the Top Housing is installed, the Battery is held in place.

CAUTION: Dispose of the Battery according to local regulations for hazardous materials. Do not incinerate, crush or throw out in regular garbage containers. Battery contains an acid solution.

6. Reassemble the scale and connect the ac adapter to the scale and plug into a power source. Allow the battery to charge for at least 12 hours with the scale off. A new battery requires a long charge period to obtain maximum service when operating the scale for the first time.

4.1 PERFORMANCE TESTS

Accurate performance of the EB Series Scales is determined by a series of three performance tests, Repeatability Test, Off-Center Load Test and Linearity Test. These tests are used to evaluate the scale performance before and after repairs. Each scale tested must meet the requirements specified in each test as well as the specifications listed in Table 4-1. A scale passing each of these three tests complies with Ohaus specifications. A segment display test determines if the display is working properly.

4.1.1 Segment Display Test

Connect the AC Adapter into a suitable power source and connect it to the scale. Turn the scale on, all 999999 segments are displayed followed by a countdown of 8's, 7's, 6's and so on until all zeros are reached briefly followed by a software revision number. This is a segment display test. Figure 4-1 illustrates the starting of the display test.

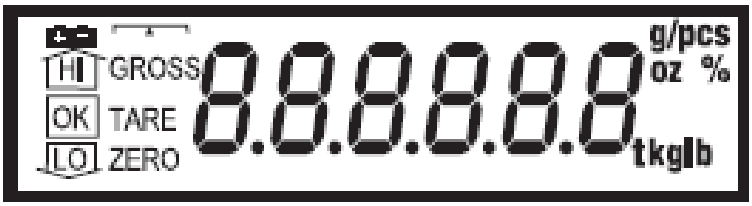


Figure 4-1. Segment Display.

4.1.2 Repeatability Test

Repeatability is the Standard Deviation of a set of similar weight readings.

Requirements:
To perform this test a single mass must be used for all readings.
The test mass should be approximately 1/2 of the capacity of the scale.
Before starting a repeatability test, set up the scale as follows:

Set Up:
Enter the menu and adjust and record the following setting.

A. Set the Filter level to 1.
B. Set the AZT (Auto Zero Tracking) to 1d.
C. Set the scale to display the same units as the performance specifications.
D. Set the Zero return to 0.

Record Settings:

Filter Level Setting = _____

Auto Zero Tracking Setting = _____

Displayed Units = _____

Zero Return = _____

Mass Used = _____

4.1.2 Repeatability Test *continued*

TEST PROCEDURE:

1. Zero the scale, if it does not read zero.
2. Using a test mass approximately half the capacity of the instrument, place the mass on the center of platform. Record the reading on the worksheet provided.
3. Remove the mass from the platform.
4. Repeat this test starting at Step 1 until you record a total of ten readings

Fill in the worksheet (Table 4-1) with the ten (10) readings.

TABLE 4-1. REPEATABILITY WORKSHEET

n	Reading	Delta = Reading – Mean	Delta x Delta
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
n = number of Reading		Mean = Sum of readings / 10	Delta = Reading – Mean
Standard Deviation = Square Root of (sum of (Delta x Delta) / 9)			

5. Add the ten readings and divide the total by 10 to find the Mean (average).
6. Mean = (Reading 1 + Reading 2 + Reading 3 + Reading 4 + Reading 5

   + Reading 6 + Reading 7+ Reading 8 + Reading 9 + Reading 10) / 10

   Mean =_____

6. Calculate the Delta for each reading and record in the work sheet.

   Delta = Reading – Mean

7. Calculate the Delta x Delta for each reading and record in worksheet.
8. Add the ten Delta x Delta values and divide by 9
9. Calculate the Standard Deviation by applying the square root of the result from step 8.

   Standard Deviation =_____

4.1.3 Off-Center Load Test

The Off-Center Load Test is used to determine whether displayed weight values will be affected by moving the sample to different areas of the weighing surface. See Figure 3-2. This test must be performed using a single mass or the masses must be stacked.

1. Zero the scale.
2. Place a mass equal to 1/3 of the full-scale capacity in the center of the weighing surface. Press the **ZERO** button to return the reading to zero.
3. Slide the mass halfway between the center and the rear edge of the platform, and record the reading.
4. Slide the mass to the center of the weighing surface and press the **ZERO** button to return the reading to zero.
5. Slide the mass halfway between the center and the left edge of the pan, and record the reading.
6. Slide the mass to the center of the weighing surface and press the **ZERO** button to return the reading to zero.
7. Slide the mass halfway between the center and the right edge of the pan, and record the reading.
8. Slide the mass to the center of the weighing surface and press the **ZERO** button to return the reading to zero.
9. Slide the mass halfway between the center and the front edge of the platform, and record the reading.
10. Maximum reading should be ≤ OCL specifications for the scale.

Reading toward Rear _____

Reading toward Left _____

Reading toward Right _____

Reading toward Front _____

Maximum Reading _____

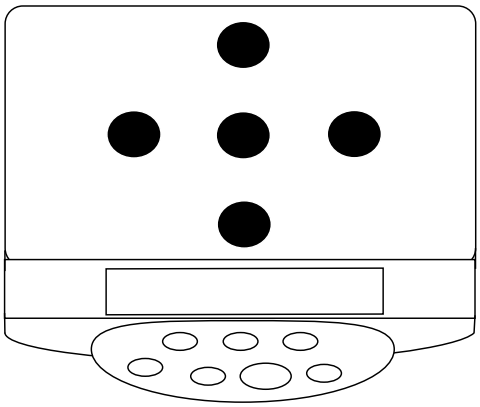


Figure 4-2. Off-Center Load Test Weight Locations.

4.1.4 Linearity Test

The linearity test is used to determine the linearity of the scale throughout its operating range. The results should be in accordance with the specifications shown above. The reference mass should be approximately 1/8 of the full-capacity of the scale.

NOTE: The scale must pass the Off-Center Load test and Repeatability Test **before** the Linearity Test is performed.

USE THE SAME REFERENCE MASS THROUGHOUT THE LINEARITY TEST.

1. Press **ZERO** to zero the display.
2. Place the reference mass on the center of the pan and record the exact value (all decimal places) displayed.
3. Remove the reference mass and verify that the display returns to zero. If it does not, disregard the reading, press **ZERO** to rezero the display, and take the reading again.
4. Place a mass equal to 1/4 of the full scale capacity on the pan and press **ZERO**.
5. Add the reference mass to the center of the pan and record the exact value displayed.
6. Remove the reference mass and verify that the display returns to zero. If it does not, disregard the reading, press **ZERO** to rezero the display, and take the reading again.
7. Place a mass equal to 1/2 of the full-scale capacity on the pan and press **ZERO**.
8. Add the reference mass to the center of the pan and record the exact value displayed.
9. Remove the reference mass and verify that the display returns to zero. If it does not, disregard the reading, press **ZERO** to rezero the display, and take the reading again.
10. Place a mass equal to 3/4 of the full scale capacity on the pan and press **ZERO**.
11. Add the reference mass to the center of the pan and record the exact value displayed.
12. Remove the reference mass and verify that the display returns to zero. If it does not, disregard the reading, press **ZERO** to rezero the display, and take the reading again.
13. Calculate the weight differences between the reading as shown in the recorded readings.
14. The Maximum difference should be less than or equal to the Linearity specification for the scale.

4.1.4 Linearity Test *continued*

Record Readings

Reading 1 reference weight added to zero _____

Reading 2 reference weight added at 1/4 full-scale capacity _____

Reading 3 reference weight added at 1/2 full-scale capacity _____

Reading 4 reference weight added at 3/4 full-scale capacity _____

Calculate Differences

Reading 1 – [(Reading 1 + Reading 2) / 2] = _____

Reading 2 – [(Reading 2 + Reading 3) / 2] = _____

Reading 3 – [(Reading 3 + Reading 4) / 2] = _____

Maximum Difference _____

4.2. CALIBRATION

Calibration – The EB Series' calibration can be calibrated using full scale capacity as the best method for the most accurate results, this is referred to as span calibration.

Calibration Weights – Before beginning calibration, make sure that the required calibration weights are available. The model-specific calibration points are listed in the Table 3-5.

4.2.1 Calibration Points

TABLE 4-2. CALIBRATION POINTS

MODEL	CALIBRATION UNIT	SPAN CALIBRATION
EB3	kg	3 kg
EB6	kg	6 kg
EB15	kg	15 kg
EB30	kg	30 kg

Notes:

1. Calibration Units kg are selected in the (Setup mode) sub-menu.
2. ASTM Class 4 or OIML Class F2 weights are required for calibration.

4.2.2 Span Calibration

1. Enter calibration by a long press of **Zero** and **COUNT** at the same time to initiate calibration.
2. The required calibration weight is displayed (ex. 3000g for a 3kg model). At this time, a different calibration weight value can be entered by pressing ▲.
3. Place the corresponding calibration weight on the Platform. The display flashes until the actual weight is registered and the calibration process ends (the scale momentarily beeps before exit ing to normal weighing mode).

Notes:

1. Different values of calibration masses can be used on the EB scale; however, it is recommended that the calibration mass used is close to or matches the maximum capacity of the scale for best accuracy.
2. The calibration procedure can be canceled at any time by turning the scale off.
3. If needed, the factory default calibration value can be recovered. As the scale is turned on, press **TARE** and **COUNT** at the same time during power-on sequence. The power-on sequence will re-cycle and the scale will re-initiate with the default calibration.

5. PARTS LISTS

This section of the manual contains exploded views for the EB Series scales.
The exploded view drawings are designed to identify the parts which can be serviced on the scale in the field.

NOTE:

In all cases where a part is replaced, the scale must be thoroughly checked after the replacement is made. The scale **MUST** meet the parameters of all applicable specifications in this manual.

If further technical information is needed, please contact your local Ohaus office, or:

Ohaus Corporation, www.ohaus.com
7 Campus Drive
Suite 310
Parsippany, NJ 07054 USA

Tel: 973-377-9000
Fax: 973-593-0359

In the United States call toll free, 800-526-0659 between 8:00 a.m. and 6:00 p.m. EST.

5.1 Drawings and Parts Lists

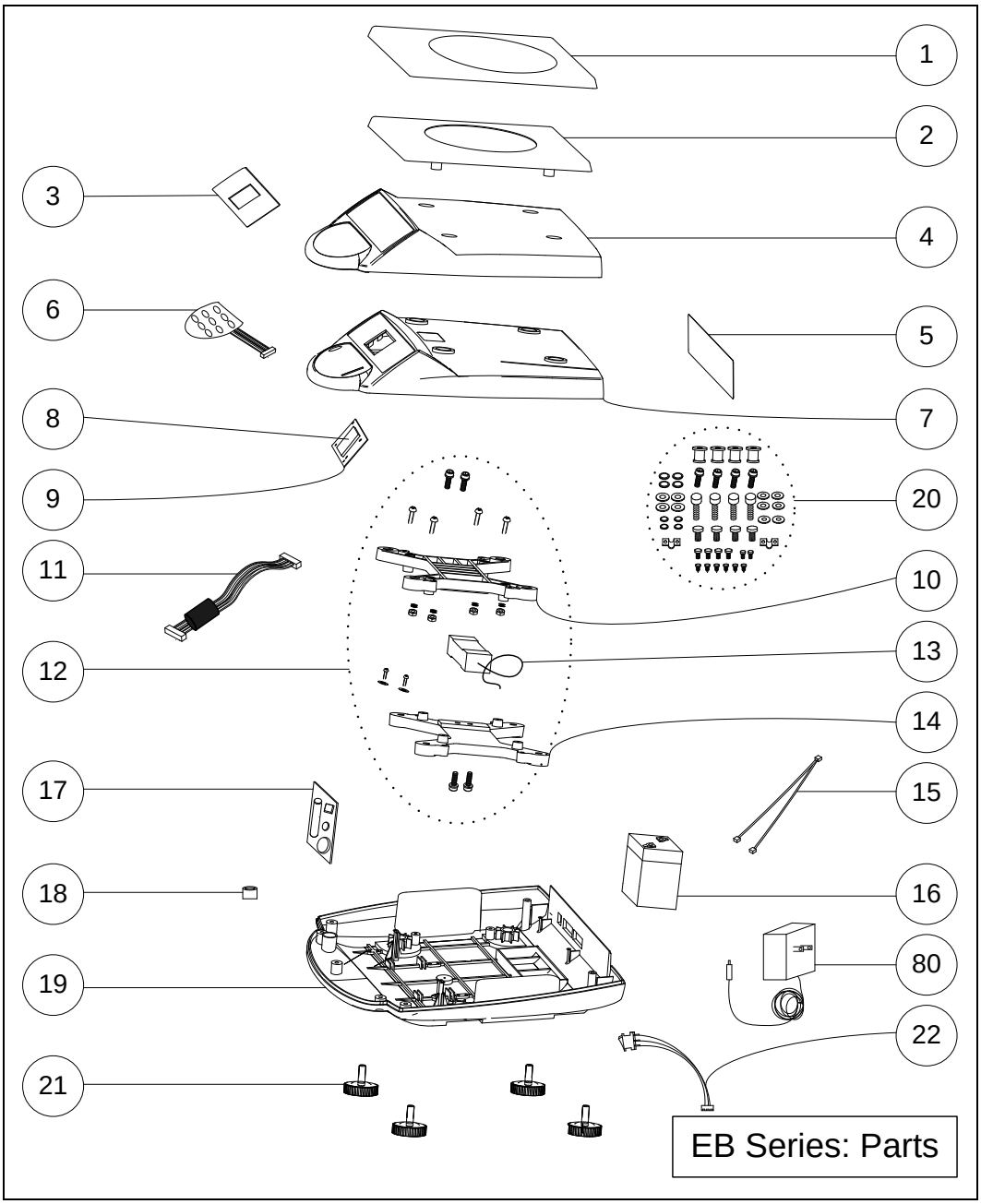


Figure 5-1. EB Series Scales: Housing and Parts.

TABLE 5-1. EB SERIES SCALES: HOUSING AND PARTS.

Drawing Item	Description
1	Stainless Steel Pan
2	Pan support
3	Front Overlay
4	In-Use Cover
5	Back Overlay
6	Membrane Switch
7	Top Housing
8a	LCD
8b	Backlight
9	Display PCB
10	Top Load Cell Frame
11	Display PCB Cable
12	Load Cell Assembly
13	Load Cell
14	Bottom Load Cell Frame
15	Battery Wire Harness
16	Rechargeable Battery
17	Main PCB
18	Level Bubble
19	Bottom Housing
20	Hardware Kit
21	Foot
22	Power Switch Assembly
80	Adapter

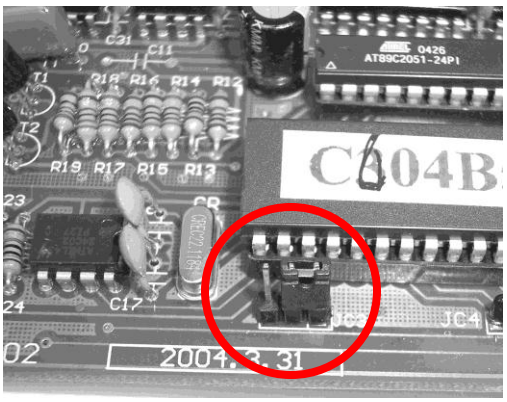
Note: see specific parts lists through your local Ohaus office, or Ohaus.com.

APPENDIX A. EB SERVICE MODES

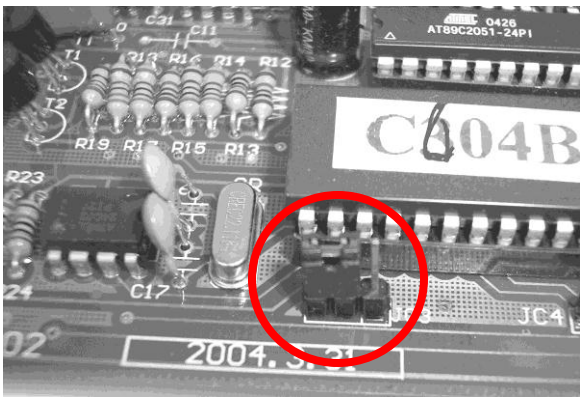
This Appendix describes the Service menu and sub-menus, which allow authorized service personnel to configure the EB scale. Configuration settings include setting the capacity and resolution and setting the decimal point position.

A.1 ENTERING THE SERVICE MENU

1. Open the scale housing and move the jumper to the service position. (See Figure A-1.)



NORMAL



SERVICE

Figure A-1. Main PC Board Jumper Positions.

2. If necessary (on very early models), move the Main PC Board Jumper from normal to service position. (See Figure 2-2.)
3. Turn on the scale. Press and hold the **TARE**, **COUNT** and **ZERO** buttons simultaneously while the display is counting down. Release when either 0.0 or xx000 is displayed.

Notes:

- If the PCB has calibration data, the display will indicate 0.0. When 0.0 is displayed, proceed to paragraph A.2 Calibration.
- If the PCB has previous data programmed and still needs to be configured press and hold the ZERO button until the display shows xx000 where xx=12, 15, 30, 60 or 75. Then proceed to paragraph A.3.
- If a new PCB has been installed, the display will indicate the resolution of the scale xx000 where xx= 12, 15, 30, 60 or 75. When xx000 is displayed, proceed to Section A.3 Scale Configuration.

A.2 SERVICE CALIBRATION

Service calibration utilizes a three point calibration technique where calibration weights of 1/3, 2/3 and full capacity are used. If **0.0** appears after entering Service Menu, proceed as follows:

1. Lightly depress the Platform until display shows **first** calibration weight to add (**1/3** of capacity).
2. Add displayed weight; wait until display shows **second** weight to add (**2/3** of capacity).
3. Add displayed weight; wait until display shows **third** weight to add (**full** capacity).
4. After accepting the weight, the scale will restart the scale check process. Remove the weight while the self-check is occurring.
5. The display will show **0.0**. Turn off the scale.
6. Refer to Figure A-1 and return the jumper to the normal position.

A.3 SCALE CONFIGURATION

1. After performing paragraph A.1 and xx000 is displayed, press **COUNT** button to step through the available settings for points of resolution as shown on table A-1. Disregard any settings not shown in the table.

TABLE A-1. SCALE RESOLUTION SETTINGS.

MODEL	RESOLUTION	CAPACITY
EB3	30000	3000.0
EB6	60000	6000.0
EB15	15000	15000.0
EB30	30000	30000

2. When the correct value is displayed, press the **TARE** button to accept.
3. The display will now show the capacity, press the **COUNT** button to step through the available settings.
4. When the correct value is shown, press the **TARE** button to accept. The display will now show 0.0.
5. After the configuration of the scale has been done, it must be calibrated, perform procedure in paragraph A.2.

P/N 80251392 D SERVICE MANUAL: EB SERIES SCALES